

July 26, 2016

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Sent via email and U.S. Mail

RE: The Scope of, and New Scientific Information that Must Be Considered in, the Endangered Species Act Section 7 Consultation on California WaterFix

Dear Mr. Stelle and Mr. Loehefner:

On behalf of the Natural Resources Defense Council, which has 2.4 million members and activists, including 380,000 Californians, I am writing regarding the scope of, and new scientific data and information which must be considered in, the consultation being undertaken by the National Marine Fisheries Service ("NMFS") and U.S. Fish and Wildlife Service ("FWS") on the proposed California WaterFix under Section 7 of the Endangered Species Act ("ESA").

On July 10, 2015, the U.S. Bureau of Reclamation ("Reclamation" or "USBR") and the California Department of Water Resources ("DWR") released the Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement ("RDEIR/SDEIS") for the Bay Delta Conservation Plan ("BDCP"), including the proposed project Alternative 4A, the California WaterFix ("WaterFix"). Since the release of the RDEIR/SDEIS, new scientific data and information has become available that is relevant and must be considered in the consultation. *See* 50 C.F.R. §§ 402.14(d), (g)(1), (g)(8). In particular, new scientific data and information regarding the effects of Delta outflow and salinity on Delta Smelt (and updated data regarding dramatic population declines as the agencies waived water quality standards during the drought), as well as new scientific information regarding the temperature requirements of winter-run Chinook salmon, must be considered in the consultation.

Second, in considering the effects of the project on listed species, FWS and NMFS must only consider beneficial actions and mitigation measures that are reasonably certain to occur. The draft Biological Assessment ("BA") and RDEIR/SDEIS make clear that proposed operations of WaterFix are not reasonably certain to occur during drought conditions, and more adverse impacts on listed species are likely. As a result, FWS and NMFS cannot rely on these proposed operations to assess the likely project impacts on listed species during drought periods.

Finally, the scope of the Section 7 consultation must consider the integration of upstream reservoir operations and downstream outflow needs. The proposed project will result in changes to reservoir operations beyond those analyzed in the 2009 NMFS Biological Opinion (or "BiOp"), and as noted above, there is new scientific information about the effects of upstream operations on listed salmonids that was not previously considered. Moreover, operations of

WaterFix will extend far beyond 2030 when the existing 2009 NMFS Biological Opinion will expire. As a result, the Section 7 WaterFix consultation and biological opinion must consider the whole of the action, including upstream reservoir operations, beyond the year 2030.

Each of these issues is discussed in more detail on the pages that follow.

I. The Section 7 Consultations for WaterFix Must Consider New Scientific Information Regarding the Likely Effects of WaterFix on Delta Smelt and WinterRun Chinook Salmon

The Endangered Species Act requires that all federal agencies utilize the best available scientific information and data in the Section 7 consultation. The implementing regulations for the ESA requires Reclamation to provide NMFS and FWS with the best available scientific data and information regarding the effects of WaterFix on listed species and designated critical habitat. 50 C.F.R. § 402.14(d). FWS and NMFS have an independent duty to use the best available scientific data and information in the consultation, including information that is not provided by Reclamation. *Id.* at §§ 402.14(f), (g)(1), (g)(8). FWS and NMFS also may request an extension of formal consultation in order for Reclamation to obtain additional scientific data, but must rely on the best scientific data and information available if an extension of formal consultation is not granted. *Id.* at § 402.14(f).

A. The ESA Consultation Must Consider New Scientific Information Regarding Likely WaterFix Effects on Delta Smelt

New scientific information has been developed on the Delta Smelt, which should be considered in the Section 7 consultation on WaterFix. Recent analyses confirm and expand upon the modeling and findings of the Interagency Ecological Program's Management Analysis and Synthesis Team (MAST 2015) regarding the effects of reductions in Delta outflow on Delta Smelt. The RDEIR/SDEIS and draft BA failed to consider the scientific information presented in the MAST 2015 report, even though the report was released before the RDEIR/SDEIS and draft BA were issued.

Recent analysis by the FWS Bay Delta Fish and Wildlife Office concluded that there is "strong support for a role of Delta outflow on the population trend of Delta Smelt when its abundance the year prior has been accounted for. The parameter estimates for the flow term are positive numbers supporting a positive influence of Delta outflow on the year over year growth of the Delta Smelt population." *See* BDFWO Response to Dr. Hamilton, dated June 6, 2016, attached hereto as Exhibit A. This initial analysis by FWS confirms the importance of both spring and summer outflow on Delta Smelt abundance and population growth.

Similarly, the Service's a June 1, 2016 memo and determination under the Central Valley Project and State Water Project Biological Opinion indicates that maintaining adequate habitat for Delta Smelt is critical to prevent extinction of the species. It noted that, "Allowing X2 to move no more eastward than 81 km through the end of [Water Year 2016] is critical to maintaining adequate habitat quality for Delta Smelt. Without action to provide adequate habitat, we risk

continued declines in Delta Smelt abundance." FWS, June 1, 2016 Determination, attached hereto as Exhibit B. 1

In addition, the California Department of Fish and Wildlife ("CDFW") also recently released the results of new scientific studies and analysis regarding the relationships between Delta outflow and Delta Smelt in the agency's "Rationale for Summer Delta Flow Augmentation for Improving Delta Smelt Survival," which is attached hereto as Exhibit C. CDFW expects flow augmentation to improve conditions related to four habitat attributes: food availability and quality, Harmful Algal Blooms ("HABs"), water temperature, and predation risk. Among their findings, they note that higher outflows can limit competition for food from invasive clams, move Smelt habitat into regions with lower risk of HABs, potentially decrease temperature stress, and increase protection from predation through turbidity and habitat characteristics. They also find statistical support for population level effects of increased Delta outflow on Delta Smelt population growth.

Proposed operations with WaterFix will address required spring and summer Delta outflow, which will affect Delta Smelt. These new scientific findings, and the other relevant scientific information contained in these documents, provide new scientific information that must be considered by FWS in assessing the effects of the proposed WaterFix project on Delta Smelt. 50 C.F.R. §§ 402.14(d), (g)(1), (g)(8).

B. The ESA Consultation Must Consider New Scientific Information on the Effects of Water Temperatures and Shasta Dam Operations on Winter-Run Chinook Salmon

New scientific information has also been developed regarding the effect of water temperatures on Sacramento River winter-run Chinook salmon. The Section 7 consultation must consider this information, as well as its implications for Shasta Dam operations, in its evaluation of systemwide impacts of the proposed operations of WaterFix.

In a June 28, 2016 concurrence letter to the USBR on the Sacramento River Temperature Management Plan ("NMFS Concurrence Letter", incorporated by reference hereto as Exhibit D²), NMFS acknowledges that there is new scientific information regarding optimal and maximum temperatures for salmon. In their evaluation of the scientific literature, NMFS found that water temperatures up to 50°F "are optimal for winter-run egg and fry survival and development," and that a temperature maximum of 55°F should be used for the 7-Day Average of the Daily Maxima ("7DADM") to better reflect daily conditions and prevent exceeding temperature standards with a single daily temperature. NMFS also notes that, "The previous approach of managing to 56°F daily average temperature…was not supported, as it is not sensitive to extreme high or low water temperatures within a given day," and that the new NMFS model also, "identified 53.7°F as the critical temperature at which temperature-related winter-run

¹ From approximately June 6, 2016 to July 25, 2016, Reclamation and DWR failed to maintain X2 at or west of 81 km. Despite the Smelt Resiliency Strategy announcement, to date Reclamation has not provided any additional outflow specifically to prevent the extinction of Delta Smelt, and outflow levels in recent weeks resulted in the violation of D-1641 salinity standards in mid-July (Jersey Point EC) and operations necessary to prevent the recurrence of such violations.

² The letter, which is hereby incorporated by reference, is available online at: http://www.westcoast.fisheries.noaa.gov/publications/Central Valley/Water%200perations/nmfs_concurrence on the bureau of reclamation s sacramento river temperature management plan-june 28 2016.pdf.

egg and fry mortality increases significantly with increasing water temperatures..." NMFS' third main finding in the letter was that,

Inputs to Reclamation's temperature model are not conservative, and the model generally assumes that operations can achieve temperature targets that are either not realistic or not supported in the historical record. The CVP/SWP Opinion, RPA Action I.2.4(3), required Reclamation to fix this and other major flaws of this model; however, that RPA action has not been implemented.

NMFS Concurrence Letter at 2, 3. NMFS must consider this new scientific information in the Section 7 consultation on WaterFix, and should not rely on Reclamation's temperature model in light of the identified flaws with this model. 50 C.F.R. §§ 402.14(d), (g)(1), (g)(8).

II. In Assessing Likely Effects of WaterFix, the Section 7 Consultation Must Only Consider Conservation and Mitigation Measures that are Reasonably Certain to Occur

It is black letter law that in assessing the effects of a project and proposed mitigation measures in the Section 7 consultation process, the agencies can only consider the effects of those environmentally beneficial actions that are reasonably certain to occur. *See, e.g., National Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 935-936 and n. 17 (9th Cir. 2007); *Natural Resources Defense Council v. Kempthorne*, 506 F.Supp. 2d 322, 356-57 (E.D. Cal. 2007); *Center for Biological Diversity v. Rumsfeld*, 198 F.Supp.2d 1139 (D. Ariz. 2002); *National Wildlife Federation v. National Marine Fisheries Service*, 254 F.Supp.2d 1196, 1213-1216 (D. Or., 2003).

For instance, in *National Wildlife Federation*, the Ninth Circuit held that proposed structural improvements to three dams, which could benefit salmon if they were implemented, must be excluded from the consultation on the proposed action "without more solid guarantees that they will actually occur." 524 F.3d at 935-936 and n. 17. The Court explained that, "It may well be that the agencies lack the power to guarantee the improvements in question. However, if this is the case, the proper course is to exclude them from the analysis and consider only those actions that are in fact under agency control or otherwise reasonably certain to occur." *Id.* at n. 17.

Similarly, in *Rumsfeld*, the court held that the lack of enforceable mitigation measures rendered the biological opinion invalid, explaining that,

To avoid a substantive violation of the prohibition against jeopardy, the agency must develop mitigation measures-either as part of the proposed project or as RPAs in the biological opinion. 16 U.S.C. § 1536(a)(2). Mitigation measures must be reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise-enforceable obligations, and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.

198 F.Supp.2d 1139 (citation omitted).

And in *Kempthorne*, the district court held that the Delta Smelt biological opinion's reliance on adaptive management programs to offset the impacts of proposed operations was invalid because beneficial actions under the adaptive management program was not reasonably certain to occur. 506 F.Supp.2d at 356-357. The court noted that,

Here, the adaptive management process has no quantified objectives or required mitigation measures. Although the process must be implemented by holding meetings and making recommendations, nothing requires that any actions ever be taken. The BiOp asks the court to trust the agency to protect the species and its habitat. Notwithstanding any required deference to expertise, the ESA requires more...

The DSRAM, as currently structured, does not provide the required reasonable certainty to assure appropriate and necessary mitigation measures will be implemented. The DSRAM does not provide reasonable assurance admitted adverse impacts of the 2004 OCAP will be mitigated. This aspect of the BiOp is arbitrary and capricious and contrary to law.

Id. at 356.

In assessing the effects of the proposed WaterFix on listed species in the Section 7 consultation, FWS and NMFS cannot rely on drought operations or other measures that are not reasonably certain to occur.

Especially during drought years, the WaterFix BA and RDEIR/SDEIS make clear that the proposed operations in these documents are not reasonably certain to occur, and more severe environmental impacts are likely to affect delta smelt, longfin smelt, winter-run Chinook salmon, spring-run Chinook salmon, and other listed species. For instance, the RDEIR/SDEIS repeatedly indicates that the CVP and SWR are likely to be operated in a manner that does not comply with the flow, water quality, and other environmental standards identified in the RDEIR/SDEIS during future droughts. The RDEIR/SDEIS fails to analyze the impact of these actions. As an example, the RDEIR/SDEIS admits that,

These changes in storage would reduce the ability of the CVP and SWP to meet system water demands and environmental water needs. Adaption measures would need to be implemented on upstream operations to manage coldwater pool storage levels under future sea level rise and climate change conditions. As described in the methods section of Chapter 5, Water Supply, in the Draft EIR/EIS, model results when storages are at or near dead pool may not be representative of actual future conditions because changes in assumed operations may be implemented to avoid these conditions.

RDEIR/SDEIS at 4.2-4 (emphasis added). The same or similar language appears repeatedly in the document. *See, e.g.*, RDEIR/SDEIS at 4.2-10 to 11, 4.3.1-6, 4.3.4-25; RDEIR/SDEIS Appendix A at 5-3. Similarly, the RDEIR/SDEIS admits that,

Under extreme hydrologic and operational conditions where there is not enough water supply to meet all requirements, CALSIM II utilizes a series of operating rules to reach a solution to allow for the continuation of the simulation. It is recognized that these operating rules are a simplified version of the very complex

decision processes that SWP and CVP operators would use in actual extreme conditions. Therefore, model results and potential changes under these extreme conditions should be evaluated on a comparative basis between alternatives and are an approximation of extreme operational conditions.

As an example, CALSIM II model results show simulated occurrences of extremely low storage conditions at CVP and SWP reservoirs during critical drought periods when storage is at dead pool levels at or below the elevation of the lowest level outlet. When reservoir storage is at dead pool levels, there may be instances in which flow conditions fall short of minimum flow criteria, salinity conditions may exceed salinity standards, diversion conditions fall short of allocated diversion amounts, and operating agreements are not met.

RDEIR/SDEIS Appendix A at 5-2; RDEIR/SDEIS Appendix A at 8-237 (admitting that CALSIM modeling shows that during drought conditions, water quality standards in the Delta are exceeded due to dead pool conditions, but that this does not reflect likely CVP/SWP operations because CALSIM modeling does not reflect actual operations during such conditions).

Furthermore, the RDEIR/SDEIS asserts that extreme, prolonged droughts are not simulated or analyzed in the RDEIR/SDEIS, despite the likelihood of failing to meet water quality and other environmental commitments during such conditions, stating,

Environmental conditions arise that cannot be foreseen or simulated in the model that can affect compliance with water quality objectives. These include unpredictable tidal and/or wind conditions, gate failures, operational needs to improve fish habitat/conditions, and prolonged extreme drought conditions, among others.

RDEIR/SDEIS Appendix A at 8-53 (emphasis added).

The adaptive measures taken in such conditions are likely to result in significant adverse environmental impacts, particularly on native fish and wildlife, which are not analyzed in the RDEIR/SDEIS. For instance, the RDEIR/SDEIS asserts that water quality impacts will be less significant than identified in the RDEIR/SDEIS because the projects will not be operated as modeled:

Table 2 of Appendix 8H Attachment 1 indicates that most of these exceedances are a result of modeling artifacts, but some exceedances are due to dead pool conditions that occurred in 1977, 1981, and 1990 occurred under Alternative 4 and not under Existing Conditions. As discussed in Chapter 5, Water Supply, Section 5.3.1, Methods for Analysis, under extreme hydrologic and operational conditions where there is not enough water supply to meet all requirements, CALSIM II uses a series of operating rules to reach a solution that are is a simplified version of the very complex decision processes that SWP and CVP operators would use in actual extreme conditions. Thus, it is unlikely that the Emmaton objective would actually be violated due to dead pool conditions.

RDEIR/SDEIS Appendix A at 8-237 (emphasis added). Yet the RDEIR/SDEIS fails to explain how such adaptive measures would avoid violating the Emmaton salinity objective as a result of

dead pool conditions and without causing other significant environmental impacts. For instance, increased reservoir releases to meet water quality standards during such conditions could result in increased mortality of salmon eggs and juveniles as a result of lethal upstream temperatures. Indeed, the actions taken during the recent drought indicate that it is far more likely that water quality standards in the Delta will be waived in future droughts, and that this will cause significant adverse impacts that are not analyzed or disclosed in the RDEIR/SDEIS. As we noted in our comments on the RDEIR/SDEIS, this is likely to include both direct effects on listed species through reduced outflow, as well as indirect effects such as increased residence time that increases the likely abundance of HABs.

Drought and other "extreme hydrologic and operational conditions" are neither unforeseeable nor unpredictable. In fact, single and multi-year droughts have always been a predictable and regular feature of California's hydrology and are likely to become more frequent in the future in which WaterFix would operate. Even the RDEIR/SDEIS acknowledges that reservoir storage will approach dead pool levels more frequently in the future as a result of climate change and CVP/SWP operations. For instance, "[t]he frequency of Trinity, Shasta, and Folsom Lakes dropping to dead pool storage would increase by about 10% under the No Action Alternative as compared to Existing Conditions." RDEIR/SDEIS Appendix A at 5-3. As a result, there is a 10% increase in the frequency during which operations are not likely to occur as modeled in the RDEIR/SDEIS. These are periods when environmental impacts that are more severe and significant than those disclosed in the RDEIR/SDEIS are likely to occur, and that must be planned for and considered under the ESA.

Similarly, the draft BA for WaterFix explicitly describes how WaterFix operations after a single dry water year type in either the San Joaquin or Sacramento basins are likely to substantially deviate from proposed operations, which indicate that proposed operations are not reasonably certain to occur and cannot be relied on during the consultation process. The draft BA describes procedures for facility operation in drought conditions, which include the development of a multi-agency "drought exception procedures" team, Drought Contingency Plans and related actions, and Temporary Urgency Change Petitions ("TUCPs") to reduce environmental protections and water quality standards such as Delta outflow. WaterFix draft BA at 3-214 to 215. As a result, changes in operations during drought conditions are likely to be outside the ranges analyzed in the draft BA. These types of drought response procedures are similar to those enacted under the recent drought, in which DWR and USBR successfully pursued multiple TUCPs to modify Delta outflow and other standards. This increase water diversions and water deliveries during the drought, at the expense of meeting Delta water quality standards (including salinity and X2), ESA requirements, and upstream water temperature standards. This failure to meet water quality standards and water rights conditions has contributed to devastating impacts to native fish and wildlife species, including a 90% reduction in the estimated Delta Smelt population between 2015 and 2016, and the near complete failure of two year classes of winterrun Chinook salmon with less than 5% egg to fry survival as measured at Red Bluff Diversion Dam. Future modifications to flow and quality standards in response to droughts are likely to adversely impact listed species beyond the scope discussed in the draft BA.

The draft BA also initiates these types of drought response procedures under conditions that will occur very frequently. In general, drought conditions are defined as a single dry or critically dry year in either the San Joaquin or Sacramento Valley, followed by a dry winter. The "drought

exception procedures" team will be convened immediately following a dry or critically dry water year. WaterFix BA at 3-214. If hydrologic forecasts then predict a dry or critically dry water year by December, this leads to the preparation of a Drought Contingency Plan Framework and Proposed Drought Response Actions; following a similar forecast in February, a Drought Contingency Plan is prepared and additional actions are taken, including biological review. These types of drought thresholds are likely to be met on a regular basis in the future, particularly in light of climate change. This indicates that drought response actions may be routinely triggered under the WaterFix draft BA, dramatically changing operations from those analyzed in the WaterFix proposal.

Because the proposed operations of WaterFix in drought years are not reasonably certain to occur, NMFS and FWS cannot rely on these operations in assessing whether the proposed project will jeopardize the continued existence and recovery of listed species.³

III. The Section 7 WaterFix Consultation Must Consider Upstream Effects on Listed Salmonids as Part of the Effects of the Coordinated Operations of the CVP and SWP with WaterFix

The geographic scope of the Section 7 consultation on WaterFix must consider upstream reservoir operations and downstream outflow needs. The language discussed above from the RDEIR/SDEIS and draft BA unambiguously indicate that the proposed WaterFix project will result in changes to upstream reservoir operations that are distinct from, and significantly more adverse than, those analyzed in the 2009 Biological Opinion. NMFS has an independent duty to analyze the "effects of the action as a whole," regardless of the geographic scope of the consultation proposed in a biological assessment. 50 C.F.R. § 402.14(c). As noted *supra*, NMFS has admitted that new scientific data and information is available regarding the effects of upstream water temperatures on salmonids, including winter-run Chinook salmon. In addition, the 2009 NMFS Biological Opinion only analyzes effects and authorizes incidental take until the year 2030, and it is likely that this biological opinion will expire prior to operations of any new

³ Several other elements of the proposed WaterFix operations are not reasonably certain to occur, resulting in adverse impacts on listed species that are greater than predicted in the modeling. This includes the higher spring outflow under some operational proposal, which the draft BA and RDEIR/SDEIS indicates is intended to be met with voluntary flow purchases and without committing to meeting these outflow levels as part of the proposed action. See Draft BA at 3-74; RDEIR/SDEIS at 4.1-5. However, no funding source for these acquisitions has been identified, and the RDEIR/SDEIS also indicated that this would rely on reservoir releases from Oroville that were not consistent with the Coordinated Operating Agreement and different operations than those analyzed in the RDEIR/SDEIS. See RDEIR/SDEIS at 4.1-9. Similarly, although WaterFix proposes that it will attempt to use South Delta operations during the summer months, proposed operations do not require that WaterFix maintain sufficient bypass flows to meet summer outflows needed for Delta Smelt and other fish and wildlife. In addition, WaterFix proposes vague and undefined adaptive management processes that do not ensure that adequate conservation and mitigation measures are reasonably certain to occur. See Kempthorne, 506 F.Supp.2d at 356-357. For example, recent adaptive management measures during the drought dramatically weakened minimum protections required under the biological opinions, and led to an estimated 90% decline in the abundance of Delta Smelt and near complete year class failure for endangered winter-run Chinook salmon in both 2014 and 2015. In 2016, the agencies have failed to provide additional outflow as described in the Smelt Resiliency Strategy, and Reclamation has publicly stated that they are likely unable to obtain the desired levels of additional outflow in future years.

conveyance facility proposed as part of WaterFix. It is axiomatic that a consultation must consider the "entire agency action" in a consultation that is "coextensive" with the action at issue, and that the term "agency action" must be interpreted broadly to ensure that agencies evaluate "all of the possible ramifications of the agency action." Conner v. Burford, 848 F.2d 1441, 1453, 1458 (9th Cir. 1988). Courts have held that under Section 7 of the ESA, "Generally, the period covered by a biological opinion is defined by the life of the project or agency action." Center for Biological Diversity v. Rumsfeld, 198 F.Supp.2d 1139, 1156 (D. Ariz., 2002). Courts have repeatedly rejected the use of short term biological opinions with the promise of reinitiating consultation in the future, noting that such an approach could lead to a slow slide towards extinction that is inconsistent with the ESA. See Wild Fish Conservancy v. Salazar, 628 F.3d 513, 523-525 (9th Cir. 2010) (invalidating 5 year biological opinion analyzing ongoing operations of a hatchery and rejecting FWS' argument that reinitiation of consultation in 5 years in conjunction with infrastructure changes to the hatchery complied with the ESA, holding that doing so failed to analyze the whole of the agency action). As the Ninth Circuit noted in Wild Fish Conservancy, "The duty to reinitiate consultation in the future, however, does not diminish the Service's obligation to prepare a comprehensive biological opinion now." *Id.* at 525. Because WaterFix will affect upstream operations, because new scientific information is now available, and because operations of WaterFix will continue beyond the 2030 period when the existing biological opinion expires, NMFS must consult on the whole of the action, including upstream reservoir operations, under Section 7 of the ESA, and NMFS must consider this new scientific information in that consultation. 50 C.F.R. § 402.14(c); see also 50 C.F.R. §§ 402.16(b), (c).

IV. Conclusion

We strongly encourage FWS and NMFS to engage in a comprehensive consultation process that carefully evaluates the impacts to listed species as a result of WaterFix proposal. FWS and NMFS must consider new scientific information on Delta Smelt and winter-run Chinook salmon, as it is essential that the agencies' assessment of impacts utilize the best available scientific data and information in order to assess the likely impacts of WaterFix on listed species. In addition, in assessing the likely impacts, NMFS and FWS cannot rely on operations or other measures that are not reasonably certain to occur, particularly during drought periods. Finally, the consultation should address the whole of the action, examining impacts of the WaterFix proposal on both upstream reservoir operations and downstream outflow.

Thank you for consideration of our comments. Please do not hesitate to contact us if you have any questions or would like to discuss this further.

Sincerely,

Doug Obegi Senior Attorney

Enclosures